

### Kenneth W. McFarlane

#### A. Professional preparation

University of Glasgow UK *Natural Philosophy*, B.Sc., (1958).

University of Birmingham UK, *Elastic Proton-proton Scattering at 1 GeV*, Ph.D., (1964).

University of Birmingham UK Post-Doctoral Research Fellow *Elastic proton-proton scattering* (1961 - 1963).

University of Pennsylvania Research Associate, *Kaon decays* (1963 - 1966).

#### B. Appointments

Hampton University (1998 – present) Research Professor.

Norfolk State University and Jefferson Lab (1994 - 1998), Professor of Physics and Jefferson Lab staff scientist (*joint appointment*).

Superconducting Super Collider (SSC) Laboratory (1991 -1994), Senior Scientist. (1993-1994) Head, Department B of Physics Research Division (GEM department); *Department B consisted of twenty-five scientists working on the GEM detector proposal*. Leader, GEM Computing Subsystem; *planned future computing system for GEM*.

Temple University (1969-1992), Professor of Physics (1975-1993). Chair of Physics Department (1970 - 1975). Principal Investigator, U.S. D.O.E. contracts (1970-1992).

University of Pennsylvania Assistant Professor of Physics (1966 – 1969).

#### C. Selected Publications<sup>1</sup>

1. A Cherenkov counter designed as a muon trigger for the SDC detector. M. Albee, G. Baranko, B. Boomer, M. Christoph, M. Daoudi, E. Erdos, U. Nauenberg, G. Schultz, J. Smathers, Q. Van Egeren, C. Wente, J. Belz, G. Daniel, C. Guss, S. Kettell, [W.] K. McFarlane, K. Johns, P. Koehn, Nucl. Inst. and Methods in Physics Research **A325**, 429 (1993).
2. GEM Technical Design Report (B. Barish and W. Willis spokespersons), SSCL-SR-1291 (1993) and GEM-TN-93-262. (Principal author of chapter on computing, controls and networks.)
3. Coherent  $\pi^0$  photoproduction on the deuteron up to 4 GeV, , D.G. Meekins and the Jefferson Lab Hall C collaboration: D.J. Abbott, A. Ahmidouch, C.S. Armstrong, J. Arrington, K.A. Assamagan, O.K. Baker, S.P. Barrow, D.P. Beatty, D.H. Beck, S.Y. Beedoe, E.J. Beise, J.E. Belz, C. Bochna, P.E. Bosted, E.J. Brash, H. Breuer, R.V. Cadman, L. Cardman, R.D. Carlini, J. Cha, N.S. Chant, G. Collins, C. Cothran, W.J. Cummings, S. Danagoulian, F.A. Duncan, J.A. Dunne, D. Dutta, T. Eden, R. Ent, B.W. Filippone, T.A. Forest, H.T. Fortune, V.V. Frolov, H. Gao, D.F. Geesaman, R. Gilman, P.L.J. Gueye, K.K. Gustafsson, J-O. Hansen, M. Harvey, W. Hinton, R.J. Holt, H.E. Jackson, C.E. Keppel, M.A. Khandaker, E.R. Kinney, A. Klein, D.M. Koltenuk, G. Kumbartzki, A.F. Lung, D.J. Mack, R. Madey, P. Markowitz, K.W. McFarlane, R.D. McKeown, Z-E. Meziani, M.A. Miller, J.H. Mitchell, H.G. Mkrtchyan, R.M. Mohring, J. Napolitano, A.M. Nathan, G. Niculescu, I. Niculescu,

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<sup>1</sup>The initials W. K. have been used in signing publications.

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## BIOGRAPHICAL SKETCHES

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- T.G. O'Neill, B.R. Owen, S.F. Pate, D.H. Potterveld, J.W. Price, G.L. Rakness, R.D. Ransome, J. Reinhold, P.M. Rutt, C.W. Salgado, G. Savage, R.E. Segel, N. Simicevic, P. Stoler, R. Suleiman, L. Tang, B.P. Terburg, D.van Westrum, W.F. Vulcan, S.E. Williamson, M.T. Witkowski, S.A. Wood, C. Yan, B. Zeidman, Phys.Rev.**C60**, 2201(1999).
4. Measurements of deuteron photodisintegration up to 4.0 GeV. By E89-012 Collaboration (C. Bochna et al.). Phys.Rev.Lett.**81**, 4576 (1998)
  5. Measurement of the branching ratio for the rare decay  $K^0_L \rightarrow \mu\mu$ . BNL E791 Collaboration (A.P. Heinson *et al*), Phys.Rev. **D51**, 985 (1995).
  6. Improved Upper Limit on the Branching Ratio  $K^0_L \rightarrow \mu e$ . By BNL E791 Collaboration (K. Arisaka, L.B. Auerbach, S. Axelrod, J. Belz, K.A. Biery, P. Buchholz, M.D. Chapman, R.D. Cousins, M.V. Diwan, M. Eckhouse, J.F. Ginkel, C. Guss, A.D. Hancock, A.P. Heinson, V.L. Highland, G.W. Hoffmann, J. Horvath, G.M. Irwin, D. Joyce, T. Kaarsberg, J.R. Kane, C.J. Kenney, S.H. Kettell, W.W. Kinnison, P. Knibbe, J. Konisberg, Y. Kuang, K.Lang, D.M. Lee, J. Margulies, C. Mathiazhagan, W.K. McFarlane, R.J. McKee, P. Melese, E.C. Milner, W.R. Molzon, D.A. Ouimette, P.J. Riley, J.L. Ritchie, P. Rubin, G.H. Sanders, A.J. Schwartz, M. Sivertz, W.E. Slater, J. Urheim, W.F. Vulcan, D.L. Wagner, R.E. Welsh, R.J. Whyley, R.G. Winter, M.T. Witkowski, S.G. Wojcicki, A. Yamashita, H.J. Ziock ), (UCLA, Temple U., Stanford U., Phys. Dept., William-Mary Coll., UC, Irvine, Texas U., Los Alamos), Physical Review Letters **70**, 1049 (1993).
  7. New searches for the C-non-invariant decay and the rare decay  $\pi^0 \rightarrow 4\gamma$ . J. McDonough, V.L. Highland, W.K. McFarlane, R.D. Bolton, M.D. Cooper, J.S. Frank, A.L. Hallin, P. Heusi, C.M. Hoffman, G.E. Hogan, F.G. Mariam, R.E. Mischke, L.E. Piilonen, V.D. Sandberg, U. Sennhauser, R.D. Werbeck, R.A. Williams, S.L. Wilson, D.P. Grosnick, and S.C. Wright, Phys. Rev. **D38**, 2121-2128 (1988)
  8. Measurement of the rate for pion beta decay, W.K. McFarlane, L.B. Auerbach, F.C. Gaille, V.L. Highland, E. Jastrzembski, R.J. Macek, F.H. Cverna, C.M. Hoffman, G.E. Hogan, R.E. Morgado, J.C. Pratt, and R.D. Werbeck, Phys. Rev. **D32**, 547-565 (1985).

### D. Synergistic activities

Faculty member at Norfolk State University and Hampton University (both HBCUs). In this role, taught and advised African American students.

Created software design package for curved scintillation counters and light guides, for the G0 experiment at Jefferson Lab, to automate the design and manufacturing processes. The package starts from physics considerations and goes to 3D models for engineering with files for CNC machines, and does light transport simulation, and physics acceptance calculations.

### E. Collaborators and other affiliations

- (i) Recent and current collaborators: Jefferson Lab Hall C collaboration (see publications), the G0 collaboration (D. Beck, U. Illinois), the GEn collaboration (D. Day, UVa).
- (ii) Graduate advisors: G.W. Hutchinson, R.E. Burcham (Birmingham, UK)); post-doctoral advisor: A. K. Mann (U. of Pennsylvania).
- (iii) Graduate students and post-doctoral scholars In the last five years, none. Total numbers: four graduate students, four post-doctoral scholars.